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PROMOTING DIGITAL PAYMENTS AND TRANSFORMING INDIA INTO A LESS-CASH ECONOMY

INTRODUCTION

In recent years, there has been a global move towards reducing the use of cash in various kinds of transaction. An IMF Working Paper on '*The Macroeconomics of De-cashing*'[1] published recently reveals that many countries across the globe — both developed and developing — have already taken initial steps to limit cash transactions in their economies. These steps include abolishing large denomination currencies, imposing ceilings on cash transactions, introducing reporting requirements for cash payments exceeding a specified amount, declaration requirements on the carriage of cash in and out of the country, and even taxing cash transactions. These initiatives do not in any way target the abolition of money, rather, a sweeping reduction in cash component of the currency, by adopting other convenient, safe and transparent means of transaction such as cards and digital payments.

Given the advantages of going cashless and advancements in innovative technologies, India is also striving to become a digital economy with an aim to transform itself into a digitally empowered society and knowledge economy. In this direction, concerted efforts are being made to improve the digital infrastructure in the country so as to facilitate and promote cashless transactions and transform India into less-cash society. With the *Pradhan Mantri Jan Dhan Yojana* and Direct Benefit Transfers (DBTs) scheme in place and penetration of Internet connections and increase in smartphone users in India, digital payments and cashless transactions have proliferated in the last few years. The adoption of new technologies for digital payments has not only transformed the conventional banking system in India, but has also enhanced the banking outreach significantly. It is now being increasingly realised that if the potential of digitalisation is fully harnessed, it will revolutionise India's socio-economic landscape, and positively influence growth and equity, thereby empowering the common man.

TOWARDS CASHLESS ECONOMY: A GLOBAL TREND

Cash and cashless have become the buzzwords since the demonetisation of high currency notes in India on 8 November 2016. But, India is not the only country in the world and also not the first one to make such a big move towards a cashless society. This is a global trend. Countries across the globe are making great strides towards eliminating or minimising the use of paper currencies. While Australia, Singapore, Venezuela, the United States and the European Central Bank have all either eliminated or have proposed to eliminate high denomination notes, other countries like France, Sweden and Greece have targeted adding restrictions on the size of cash transactions, reducing the number of ATMs in the countryside, or limiting the amount of cash that can be held outside the banking system. These economies are not cashless in the true sense of the word; some amount of cash at this stage is still required for an economy. Thus, less cash is the appropriate description. Post-demonetisation, even the Minister of Finance stressed that "digital transactions are a parallel mechanism, not a substitute for cash transactions, and a cashless economy is actually a less-cash economy, as no economy can be fully cashless".

Box-1. Digital Transactions

Digital transactions are defined as transactions in which the customer authorizes the transfer of money through electronic means, and the funds flow directly from one account to another. These accounts could be held in banks, or with other entities/service providers. These transfers could be done through means of cards (debit/credit), mobile wallets, mobile apps, net banking, Electronic Clearing Service (ECS), Electronic Fund Transfer (EFT), Immediate Payment Service (IMPS), or other similar means.

[1] De-cashing is defined as the gradual phasing out of currency from circulation and its replacement with other convenient convertible means.

DIFFERENCE BETWEEN BANKING AND PAYMENT SERVICES

Given the fast changing payments landscape, digital transactions refer to financial transactions which involve money and payments, and also acts of depositing money into account, borrowing, lending, buying or selling goods and services. However, there is a clear difference between the banking and payment services today. While banking is the business of giving assured returns on deposits and lending, payment is a business of transferring money. Banks perform both the banking and payment services. Traditionally, payments have been associated with banking on account of their adjacency with banking services. However, technology has transformed the payment system and eliminated the requirement for physical transfer of value. Today, the payments industry is dominated by Fintech companies, *i.e.* players facilitating digital or electronic payments. Globally, this payment system has been well accepted and accordingly structural changes have been effected to ensure that the consumers benefit the most from the technology-led payments revolution and competition between the banks and payments services. This is true for many progressive economies including countries in European Union (including the UK), Australia and South Africa. The common themes across these jurisdictions are to promote increased participation of non-banks in payments, and promote access and competition in the payments industry. India is no exception. Over the past few years, the payment landscape in India too has mirrored these developments, with digital transactions displaying a robust growth.

WHY DIGITAL PAYMENTS?

The phenomenal global growth in digital transactions may be attributed to digital and technological revolution, high cost of cash, need for secure and convenient payments solutions, entry of several non-banking Payment Service Providers (PSPs) into payments space, and customers becoming more demanding and expecting instantaneous and one-touch payment solutions.

(i) ***Digital and Technological Revolution:*** Technology has been advancing at a rapid pace. To meet the demands of the people and time, technology has given rise to several innovative means. Today, e-commerce platforms have spawned millions of small entrepreneurs to access the global marketplace. Payment of utility expenses can now be done at a click of the mouse instead of standing in long queues. In all these, digital payments have a key role to play to help remove friction in transferring money. When payments are instant, they also reduce the risks associated with possible defaults.

(ii) ***High Cost of Cash:*** The cost of managing cash on account of various aspects of currency operations such as cost of printing of new currencies, cost of currency chest, cost of maintaining supply to ATM networks, etc. are too high in an economy that is highly dependent on cash. As India is a cash-heavy economy, it imposes an estimated cost of approximately Rs. 21,000 crore on the Exchequer. Transitioning to digital payments is estimated to bring about a significant reduction in costs incurred on account of cash handling and other paper-based payments systems.

(iii) ***Need for Secure and Convenient Payment Modes:*** Given the social costs inherent in the cash holding and payments such as robbery, threat to life and also the issue of coming across counterfeit currencies, there is an urge for secure modes of payments. Further, technological advancements have provided new avenues for and convenient modes of digital and card payments.

(iv) ***Fast and Instantaneous Payments and Settlements:*** Having witnessed the innovative technologies revolutionising every aspect of human life, the new generation today expects instantaneous modes of transaction. Technology has, in fact, helped rapid delivery of payments at lower costs, with greater scalability and ease of access.

(v) ***Entry of Non-banking Payment Service Providers (PSPs) into the Payments Space:*** A new technology is always adopted to make tasks easier and more efficient, and this applies to the financial sector as well. Over the past few years, many Payment Service Providers (PSPs), also called Fintech companies, have entered the payments space and have transformed the way people interact with the financial system of the country. These PSPs facilitate not only payments, purchases and transfer of money but also help people invest, borrow and track their expenses.

BENEFITS OF DIGITAL PAYMENTS FOR THE GOVERNMENT AND THE PEOPLE

Digital payments have many benefits for both the people and the governments. Moving from cash to digital has the potential benefits of making payments more efficient by lowering the cost of disbursing and receiving payments; increasing the speed of payments; ensuring the privacy of payments; reducing the incidence of crimes associated with them; and increasing the transparency of payments, thus making it less likely to be leaked between the sender and receiver and providing a first entry point into the formal financial system. The benefits of digital payments go well beyond convenience. If provided efficiently and effectively, they can transform

the financial lives of those who use this technology. Following are the benefits of digital payments:

(i) Benefits for the Governments

Increased Transparency: Given the liquidity and transactional anonymity of cash, cash payments are subject to "leakage" (payments that do not reach the recipient in full) and "ghost" (fake) recipients, particularly in the context of money transfers from the Government. By moving towards digital payments, the traceability of the payment process is improved. First, recipients have digital records of the amount of the payments they are to receive. Second, digital payments generally require more stringent identification and documentation, making it harder for ghost recipients to remain undetected.

Curb Corruption and Black Money: If all transactions are electronic then these transactions can be chased, recorded and checked; and as a result, corruption will automatically come down, and people will no longer have to pay to collect what is rightfully due to them. This will help curb the menace of black money which has been denting the tax base and tax collections, encouraging terror financing and drug trafficking, generating fake currency and much more. As it would make book keeping easier, digital financial transactions can prove to be effective in curbing the large parallel economy run on black money.

Increase in the Tax Base: As digital payments help increase transparency of the flow of cash and money, tax evasion would be difficult and would enhance revenue collection. It will also be easier for the governments to monitor, control and tax their subjects.

Curb Circulation of the Fake Currency Notes: As India remains a cash dependent economy, anti-national elements have taken the benefit of it and have flooded the country with fake currency notes. With increased digital payments and less cash circulation in the economy, it will not only be easier for the Reserve Bank of India (RBI) to monitor, control and seize the fake currency notes, it will also be difficult for anybody to print the fake currency notes and circulate them. Thus, digital payments will give ammunition to the central bank to address the concern of rising fake currency notes in the economy.

Lower Costs: Moving from cash payments to digital payments can lead to significant cost savings in the long term. The potential cost savings are especially striking when considering large-scale government-to-public payments, such as social transfers. This can bring greater efficiency and transparency in all kinds of welfare programmes as money is wired directly into the accounts of the recipients under such programmes.

Greater Financial Inclusion: Less cash economy will also pave the way for universal availability of banking services as no physical infrastructure is required other than electronic which can be facilitated by the Government without much efforts. With the universal availability of banking services, there will be improvement in credit access and financial inclusion.

Good for the Banking Sector: Once people are used to digital payments and transfers, there would be less demand for cash holding. This will give the regulators more control over the economy.

Decrease in Crime Rate: Many anti-social and illegal activities like drug trafficking, money laundering and terror financing are carried out in cash. With increased digital transactions, it will be difficult for such anti-social and anti-national elements to carry out nefarious operations.

(ii) Benefits for the People

Lower Costs: Senders and recipients of cash payments, particularly in rural areas, often have to travel a considerable distance to the designated locations such as the bank branches, counters or Government offices, which may only be available in a regional headquarter or in a city, in order to receive a remittance or Government transfer or make a bill payment. This results in significant travel time and travel expenses, and further becomes costly in terms of income forgone while traveling and waiting to collect a payment.

Improved Speed and Timely Delivery: In contrast to cash payments that travel at the speed of its carrier, digital payments are virtually instantaneous, regardless of whether the sender and receiver are in the same town, district, or country. In emergency situations particularly which lead to unexpected income shocks such as a health emergency or natural disaster, speedy and timely delivery can be of great significance. In digital form, payments — be they remittances from abroad or government assistance in times of disaster situations — can be made without delay when needed the most.

Increased Security: Possession of cash is also vulnerable to street crimes. Digital payments can help make transactions without the same being noticed by anybody, thereby bringing down crimes relating to cash holdings. Thus, digital payments ensure security from life threats. However, it is important to have in place systems to prevent security breaches of digital payment mechanisms.

FROM PAPER-BASED TO DIGITAL PAYMENTS: MOVING TOWARDS A LESS-CASH ECONOMY

Cash has been in use for over 2600 years. It played a dominant role in the Indian monetary system. In fact, the cash-to-Gross Domestic Product (GDP) ratio in India, which is about 12%, is among the highest in the world. However, since 1990s, the new technologies have helped make non-cash transactions more viable. In the last few years, all segments of the electronic payments,

particularly retail electronic payments, have shown healthy growth both in terms of volume and value of usage. Today, when India is considered as one of the leading players in the field of Information Technology, it is not fully reflected in the Indian payment and settlement system. Thus, the time has come to use these technologies in the fields of payments and transfers so as to transform India's payments landscape to the benefit of its people and economy.

As quoted in the Report of the Committee on Digital Payments that submitted its Report in December 2016, only 20% of the total transactions and 5% of personal consumption expenditure are undertaken digitally. As regards the cards, the usage of Debit Cards at ATMs has been hovering around 85% of the total volume and around 92% of the total value of debit card transactions. Their usage at the Points of Sale (PoS) machines accounts for only about 15% of the total volume and about 8% of total value of debit card transactions.

Over the years, the following institutional mechanisms have been brought in place to facilitate payments and settlements in India.

Clearing Corporation of India Ltd. (CCIL): To facilitate faster and smooth settlements, the Clearing Corporation of India Ltd. (CCIL) was set up in April 2001 for clearing and settlement of trades in money market, government securities and foreign exchange markets.

National Payments Corporation of India (NPCI): To facilitate retail payments, the RBI encouraged the setting up of the National Payments Corporation of India (NPCI) to act as an umbrella organisation for operating various Retail Payment Systems (RPS) in India. Since the NPCI became functional in early 2009, it has been working to bring about greater efficiency by way of uniformity and standardisation in retail payments. Over time, it helped in expanding and extending the reach of both the existing and the innovative payment products for greater customer convenience.

Since the payment system in India is largely bank-centric, most of the payment gateways are being operated either by the RBI or by NPCI. In fact, this bank-centric nature of the payments industry is not peculiar to India only. In jurisdictions such as Australia and the United Kingdom, the payment systems were largely bank-led. However, these jurisdictions transitioned to a legal framework, which provided regulatory parity for both the bank and non-bank participants, and provided for inter-operability and open access to payment systems for all players.

Legal Framework to Regulate and Oversee the Payments Industry in India: The Payment and Settlement Systems Act, 2007

The payment and settlement systems serve as a backbone of the financial system of a country. Over the years, a number of payment systems have evolved in India ranging from manual paper-based clearing to Real Time Gross Settlement (RTGS) system facilitating non-cash modes of payments. Various retail payment systems include manual paper-based clearing, Magnetic Ink Character Recognition (MICR) Clearing, Electronic Funds Transfer System (including Electronic Clearing Services), Card-based Payment Systems, Government Securities Clearing, Forex Clearing, etc. In 2006, it was felt necessary to enact a specific legislation which will empower the RBI to act as the designated authority to regulate, oversee and lay down procedures and operational/technical standards for payment systems in India. Accordingly, our Parliament enacted the Payment and Settlement Systems Act, 2007. As per the Act, no person other than the RBI can commence or operate a payment system in India unless authorised by the RBI.

To regulate the payment system operators, the Payment and Settlement System Regulations, 2008 were framed which came into force from 12 August 2008. Since then, the RBI has been regulating the payment system operators in the country which include pre-paid payment instruments, card schemes, cross-border in-bound money transfers, Automated Teller Machine (ATM) networks and centralised clearing arrangements.

NON-CASH PAYMENTS LANDSCAPE OF INDIA

The central bank of a country is usually the regulator and monitor of the national payment systems. The RBI as the Central Bank of India has been bestowed with this responsibility in our country. Over the years, it has taken several initiatives for safe, secure, sound, efficient, accessible and authorised payment systems in the country to meet the requirements of the public at large. There are varied options available through which non-cash payment can be made. These are - paper-based instruments, electronic instruments and other instruments such as pre-paid systems, mobile banking, ATM-based, Point of Sale (PoS) terminals and online transactions.

Paper-based Payments

Use of paper-based instruments (like cheques, drafts, and the like) accounts for the maximum volume of total non-cash transactions in the country. However, the share of these paper-based instruments has been steadily decreasing over a period of time and electronic mode is gaining popularity due to the concerted efforts of the RBI to popularize the electronic payment products in preference to cash and cheques. While the overall thrust is to reduce the use of paper-based transactions, it may take some time to completely move to the electronic mode, given India's peculiar socio-economic set-up.

Electronic Payments

Over the years, the RBI has been focusing on technology-based solutions for the improvement of the payment and settlement system infrastructure, coupled with the introduction of new payment products by taking advantage of the technological advancements in the

banking sector. Following are the electronic payment systems in place:

(i) Internet Banking: Internet banking, also known as online banking or e-banking or virtual banking, is an electronic payment system that enables customers of a bank or other financial institution to conduct a range of financial transactions through the financial institution's website.

(ii) Electronic Clearing Service (ECS): The RBI introduced the ECS scheme during the 1990s to handle bulk and repetitive payment requirements (like salary, interest, dividend payments, etc.) of corporates and other institutions. ECS (Credit) Scheme facilitates customer accounts to be credited on the specified value date and is presently available at all major cities in the country. The ECS (Debit) Scheme was introduced by RBI to provide a faster method of effecting periodic and repetitive collections of utility companies. This facilitates consumers/subscribers of utility companies to make routine and repetitive payments by 'mandating' bank branches to debit their accounts and pass on the money to the companies. This tremendously minimises use of paper instruments apart from improving process efficiency and customer satisfaction.

(iii) National Automated Clearing House (NACH): NACH is an electronic payment service to facilitate interbank, high-volume, electronic transactions of repetitive and periodic nature (like distribution of subsidies, dividends, interest, salary, pension, etc.), and bulk transactions towards collection of payments (like those pertaining to telephone, electricity, water, loans, investments in mutual funds, insurance premium, etc.). It is used mainly by banks, financial institutions, corporate and government for transfer and collection of funds.

(iv) Real Time Gross Settlement (RTGS) System: RTGS is a funds transfer system where transfer of money takes place from one bank to another on a "real time" and on "gross" basis. Settlement in "real time" means payment transaction is not subjected to any waiting period. "Gross settlement" means the transaction is settled on one to one basis without bunching or netting with any other transaction. Once processed, payments are final and irrevocable. This was introduced in 2004 and settles inter-bank payments and customer transactions above Rs. 2 lakh.

(v) National Electronic Funds Transfer (NEFT) System: In November 2005, a more secure system was introduced for facilitating one-to-one funds transfer of individuals/corporates. Available across a longer time window, the NEFT system provides for batch settlements at hourly intervals, thus enabling near real-time transfer of funds.

(vi) Immediate Payment Service (IMPS): Immediate Payment Service (IMPS) is a payment service introduced by the NPCI. The service, launched in 2010 has today evolved as a multi-channel and multi-dimensional remittance platform. The IMPS platform today is capable of processing Person to Person (P2P), Person to Account (P2A) and Person to Merchant (P2M) remittance and transactions and can be initiated from Mobile, Internet as well as ATM channel.

Other Payment Systems

(i) Pre-paid Payment Instruments: Pre-paid instruments are payment instruments that facilitate purchase of goods and services against the value stored on these instruments. The value stored on such instruments represents the value paid for by the holders by cash, by debit to a bank account, or by credit card. The pre-paid payment instruments can be issued in the form of smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers, etc. Subsequent to the notification of the Payments and Settlement Systems Act, 2007, policy guidelines for issuance and operation of pre-paid instruments in India were issued in the public interest to regulate the issue of pre-paid payment instruments in the country.

Mobile Wallets issued by banks or companies are also a type of pre-paid payment instrument. A mobile wallet is a way to carry cash in digital format. Instead of using physical plastic cards to make purchases, payments can be undertaken by using smartphones or tablets. An individual's account is required to be linked to the digital wallet to load money to it. Most banks have their e-wallets. Some private companies also offer e-wallets such as Paytm, Freecharge, Mobikwik, Oxigen, mRuppee, Airtel Money, Jio Money, SBI Buddy, itz Cash, etc.

Banks Pre-paid Cards are simply a plastic alternative to carrying money around and are often called everyday cards. Pre-paid debit cards are reloadable cards that allow their holders to only spend up to the amount pre-deposited into the account. These cards are even safer than the regular debit cards. One puts a certain amount of money onto the card and then can use the money.

(ii) Mobile Banking: Mobile banking is a service provided by a bank or other financial institution that allows its customers to conduct different types of financial transactions remotely using a mobile device such as a mobile phone or tablet. It uses software, usually called an app, provided by the bank or financial institution for the purpose. Each Bank provides its own mobile banking app for Android, Windows and iOS mobile platform(s). As per the RBI's operating guidelines (October 2008), only banks which are licensed and supervised in India and have a physical presence in India are permitted to offer mobile banking after obtaining necessary permission from the RBI.

(iii) Banking Cards (Debit/Credit/Cash/Travel and Other Cards): Banking cards offer consumers more security, convenience and control than any other payment methods. The wide variety of cards available — credit, debit and prepaid — offer enormous flexibility to the people. Visa, MasterCard and RuPay cards are some of the examples of card payment systems. These cards offer the people the power to purchase items from stores, Internet, through mail-order catalogues and over the telephone. They save both customers' and merchants' time and money, and thus enable them for ease of transaction. ATMs installed across the country can be used for these cards for withdrawing cash from any ATMs.

(iv) Points of Sale (PoS): A Point of Sale (PoS) is a payment acceptance terminal through which an electronic payment can be made. These PoS terminals enable customers to make payments for purchases of goods and services by means of credit/debit cards.

(v) Online Transactions: Further, to reduce the risks arising out of the use of credit/debit cards over internet/IVR (technically referred to as transactions carried out over the telephone where a credit card number is to be entered on an automated system for the purpose of making a payment to a vendor for purchase of goods, services, etc.), the RBI mandated that all Card Not Present (CNP) transactions should be additionally authenticated based on information not available on the card and an online alert such as OTP should be sent to the cardholders for such transactions.

(vi) Unstructured Supplementary Service Data (USSD): The Unstructured Supplementary Service Data (USSD) allows mobile banking transactions using basic feature mobile phone. There is no need to have mobile internet data facility for using USSD-based mobile banking. It is envisioned to provide financial deepening and inclusion of under-banked society in the mainstream banking services by providing banking services to every common man across the country. Banking customers can avail this service by dialing *99#, a common number across all Telecom Service Providers (TSPs) on their mobile phone and transact through an interactive menu displayed on the mobile screen. Key services offered under this include inter-bank account to account fund transfer, balance enquiry, mini statement, besides host of other services.

(vii) Unified Payments Interface (UPI): The UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking features, seamless fund routing and merchant payments into one hood. It also caters to the "Peer to Peer" collect request which can be scheduled and paid as per requirement and convenience. Each bank provides its own UPI app for Android, Windows and iOS mobile platform(s).

(viii) Micro ATMs: Micro ATM is a device that is used by the Bank Mitras, District Central Cooperative Banks, Primary Agricultural Credit Societies, etc. for the last mile delivery of the basic banking services. This device operates with availability of tele-network. Micro-ATMs allow customers to perform basic financial transaction using only their Aadhaar number and their fingerprint as identity proof (along with a Bank Identification Number for inter-bank transactions). The basic transaction types to be supported by Micro ATM are deposit, withdrawal, fund transfer and balance enquiry.

(ix) Aadhaar Enabled Payment System (AEPS): AEPS is a bank-led model which allows online inter-operable financial transaction at PoS/Micro ATM through the Business Correspondent (BC)/*Bank Mitra* of any bank using the Aadhaar authentication. The Aadhaar enabled basic types of banking transactions include balance enquiry, cash withdrawal, cash deposit and Aadhaar to Aadhaar funds transfer.

***(x) BHIM Aadhaar* or *Aadhaar Pay*:** BHIM Aadhaar, also popular as Aadhaar Pay, is a merchant solution for accepting payments from Aadhaar seeded bank accounts. BHIM Aadhaar/Aadhaar Pay app is installed on any smartphone held by the merchant and a fingerprint/iris scanner is connected to the smartphone. Authentication using Aadhaar biometrics helps users make instantaneous inter-bank transactions. It greatly reduces cost to the merchant on establishing acceptance infrastructure. It also enhances customers ease in making payments as it does not require the customer to carry a card or remember a pin or even have a mobile phone.

RECENT DEVELOPMENTS AND INITIATIVES TO PROMOTE CARD AND DIGITAL PAYMENTS

In the last few years, Government of India has taken numerous pro-active measures to introduce, popularise and incentivise the use of digital payments in various sectors of the Indian economy. The launch of Digital India is a major thrust programme of the Government. "Faceless, paperless and cashless" is one of the professed role of Digital India Campaign. Some of the recent developments and initiatives to promote digital payments in India include the following:

On 29 February 2016, the Ministry of Finance (Department of Economic Affairs) came out with the ***Guidelines for the Promotion of Payments through Cards and Digital Means***. The objectives of the guidelines are to:—

- improve the ease of conducting card/digital transactions for an individual;
- reduce the risks and costs of handling cash at the individual level;
- reduce costs of managing cash in the economy;

- build a transactions history to enable improved credit access and financial inclusion;
- reduce tax avoidance; and
- reduce the impact of counterfeit money.

The Reserve Bank of India (RBI) released a document titled ***Payments and Settlement Systems in India: Vision 2018*** in June 2016 setting out a plan to encourage electronic payments in India. The *Vision 2018* of the RBI aims at building best of class payment and settlement system in India by focusing on four strategic initiatives—(i) responsive regulation, (ii) robust infrastructure, (iii) effective supervision, and (iv) customer centricity.

The Committee on Digital Payments was constituted in September 2016 by the Ministry of Finance to review and to recommend appropriate measures for encouraging digital payments in the country. The Committee, headed by Shri Ratan P. Watal, Principal Advisor, NITI Aayog, *inter alia* recommended for making regulation of payments independent from the function of central banking; updating the Payment and Settlement Act, 2007; promoting digital payments within the Government; creating awareness and transparency, etc.

A ***Task Force for Promotion of Payments through Cards and Digital Means*** was constituted to recommend short-term measures to enable a transition to greater cash-less transactions. The Task Force in its Report (2016) noted that payments infrastructure and operations in India are largely driven by banks leaving aside a vast set of players associated with the payments system. Therefore, innovations in the payments industry should be encouraged, and regulatory measures should be taken to encourage competition between banks and non-bank systems to drive down costs, facilitate innovation and improve compliance.

Demonetisation: On 8 November 2016, the legal tender character of high denomination bank notes of Rs. 500 and Rs. 1000 was cancelled in India with the objective of eliminating black money, curbing infusion and circulation of fake Indian currency notes and promoting digital payments. Since demonetisation, the Government has been making concerted efforts to promote digital payments so as to make Indian economy less cash dependent. All the Ministries have been asked to encourage employees to use debit/credit card for payments. In fact, post-demonetisation, cashless transactions, particularly cashless trading has increased by more than 200 per cent.

Interim Report of Committee of Chief Ministers on Digital Payments: NITI Aayog had constituted a Committee of Chief Ministers on digital payments on 30 November 2016, with Shri Chandra Babu Naidu, Hon'ble Chief Minister of Andhra Pradesh as the Convener, which submitted its interim report on 24 January 2017. The Committee has, *inter alia*, recommended various incentives for consumers and merchants in the form of cashback on digital spends, discounts on government payments *via* digital means, incentives to Banking Correspondents (BCs) and small merchants for digital transactions.

Digital Payments Division: A Digital Payments Division has been set up in the Indian Computer Emergency Response Team (CERT-In), Ministry of Electronics and Information Technology (MeitY) in December 2016 to work on safety and security aspects involved in the digital transactions.

Bharat Interface for Money (BHIM): Hon'ble Prime Minister of India launched BHIM on 30 December 2016 to make digital transactions seamless. It provides fast, secure, reliable medium to make digital payments through the mobile phone using UPI (Unified Payment Interface) platform *via* Mobile app and USSD (Unstructured Supplementary Service Data) platform *via* *99# service. BHIM is inter-operable with other UPI applications, and bank accounts. It has been developed by the NPCI under guidance of the RBI. Within a span of four-and-a-half months, BHIM downloads have crossed 2 crores with transactions worth around Rs. 3,000 crore.

Union Budget (2017-18): One of the central themes of the Budget 2017-18 has been Digital Economy and a thrust on establishing speed, accountability and transparency in the system. To promote digital economy, a few proposals were made in the Budget which include: proposal to mandate all Government receipts through digital means, beyond a prescribed limit; steps to be taken to promote and possibly mandate petrol pumps, fertilizer depots, municipalities, hospitals, colleges, universities and other institutions to have facilities for digital payments; a mission to be set up with a target of 2500 crore digital transactions for 2017-18 through UPI, USSD, Aadhaar Pay, IMPS and debit cards; proposal to create a Payments Regulatory Board in the RBI replacing the Board for Regulation and Supervision of Payment and Settlement Systems, etc.

Cash Transaction Limit: While the Union Budget had proposed the cash transaction limit of Rs. 3,00,000 from 01 April 2017, it has been revised to Rs. 2,00,000 by amending the Finance Bill. This will discourage cash transactions and promote digital or electronic payments.

Digi Dhan Abhiyan: The Ministry of Electronics and Information Technology has started a campaign called *Digi Dhan Abhiyan* to promote cashless transactions. This campaign aims at enabling every citizen, small

trader and merchant to promote digital payment in their everyday financial transactions. Under this campaign, a free to air channel called *Digi Shala* was launched to impart information in rural and semi-urban areas on digital payment ecosystem.

100 days of *Digi Dhan Melas* in 100 cities and two incentives schemes — *Lucky Grahak Yojana* and *Digi Dhan Vyapar Yojana* were launched on 25 December 2016. The *Digi Dhan Melas* organized by the NITI Aayog which along with information, education and communication campaigns aimed at making digital payments a mass movement in India. Mega prizes of Rs. 1 crore and Rs. 50 lakhs were awarded to winners on 14 April 2017. Under the two incentive schemes, Rs. 258 crore of prize money was won by 16 lakh winners, including customers and merchants belonging to different corners of the country and from varied walks of life.

Launch of BHIM Aadhaar: On 14 April 2017, the BHIM-Aadhaar platform for merchants was launched by the Hon'ble Prime Minister of India. It will enable the merchants to accept payments from consumers using biometric authentication through their smartphones. Consumers can pay digitally using their biometric data like their thumb imprint on a merchant's smartphone having a biometric reader. Any citizen without access to smart phones, internet, debit or credit cards will be able to transact digitally through the BHIM Aadhaar platform.

Cashback and Referral Schemes: On 14 April 2017, Hon'ble Prime Minister of India launched referral and cashback schemes for BHIM users. Under the 'Referral Bonus Scheme for Individuals' both the existing user who refers BHIM and the new user who adopts BHIM would get a cash bonus credited directly to their account after 3 successful transactions by the new user. Under the 'Cash Back Scheme', merchants will get a cash back on every transaction using BHIM.

Information, Education and Communication (IEC) Activities: To incentivize the States/Union Territories for promotion of digital transactions, it was decided that Central assistance of Rs. 50 crore would be provided to the districts for undertaking Information, Education and Communication (IEC) activities to bring 5 crore *Jan Dhan* accounts to digital platform. Under the Scheme, an incentive @ Rs. 10/- is provided for every individual who has transited to digital payment mode and undertaken at least two successful transactions by any of the five digital payments modes *viz*. UPI, Rupay/Debit/Credit/Prepaid Cards, AEPS, USSD and e-Wallets.

Cashlessindia.gov.in: The Ministry of Electronics and Information Technology has also launched a new website - cashlessindia.gov.in - to promote awareness about digital transactions. The website provides official authentic information regarding various digital payment methods.

Digital Financial Inclusion, Awareness and Access (DFIAA): Given that digital financial illiteracy is an area of concern, particularly among the rural population, there is an urgent need to create awareness among the citizens, especially in rural and semi-urban areas regarding basics of digital finance services. Accordingly, the Digital Financial Inclusion, Awareness and Access Programme has been launched to promote awareness through Common Service Centres (CSCs)[2]. It aims at enabling the CSCs to become Digital Financial hubs, by hosting awareness sessions on government policies and digital finance options available for rural citizens.

As reported by the National Payments Corporation of India (NPCI), digital payments witnessed significant growth in India in the last two years, particularly in the aftermath of demonetisation in November 2016.

Digital Payments in 2015-16 and 2016-17 (as reported by NPCI)

Operated by	2015-16		2016-17		% Annual Growth	
	Volume (in Million)	Value (in Billion Rupees)	Volume (in Million)	Value (in Billion Rupees)	Volume	Value
RBI	1252.88	83273.11	1622.10	120039.68	29.47	44.15
NPCI	1743.91	5388.74	3175.96	11773.49	82.12	118.48
m-Wallet	603.98	205.84	1322.52	459.30	118.97	123.13
ICS	1923.62	3945.39	3053.38	5953.33	58.73	50.89
TOTAL	5524.39	92813.08	9173.96	138225.80	66.06	48.93

[2] The Common Services Centers (CSCs) are the access points for delivery of various e-governance and business services to citizens in remote, rural and semi-urban areas of the country.

GLOBAL BEST PRACTICES: LESSONS TO LEARN

Some of the global best practices followed by some countries to promote digital payments are given in the below box:—

Box-2. Tax Incentives provided for Digital Payments

- ***Argentina***—Since 2002, consumers who purchase goods and services using credit and debit cards receive a monthly refund of three and five percentage points, respectively, off the standard rate of Value Added Tax (VAT) of 21%.
- ***Columbia***—Since 2004, consumers who purchase goods and services using credit and debit cards receive a refund of 2 percentage points off the VAT of 10-16 per cent.
- ***Uruguay***—The Government provides tax rebates/abatement to both consumers and merchants for using electronic transactions.
- ***South Korea***—In 1994, credit card sales tax relief scheme was launched which involves a deduction of prescribed amount from the taxes payable by applying a rate of tax credit when the business owner accepts a credit card while providing VAT applicable goods or services. In 1999, the Government introduced the credit card tax income deduction scheme which was to encourage buyers (credit card users) to use their credit cards as a payment means and in lieu of that, tax cuts is provided to them.

In some countries, they have in place a certain cap on cash transactions in order to promote digital payments as a deterrent on using cash. Some measures taken in some countries are given in the box below:—

Box-3. Disincentives on Cash Transactions

- ***France***—Cash payments more than 3000 Euro for residents and 15,000 Euro for the non-residents acting as a consumer are not allowed.
- ***Portugal***—The cash payments for goods and services between consumers and traders are limited by the law. The law requires that the payment of invoices or similar documents on the amount of more than 1,000 Euro should be made to traders bank account by a bank transfer, bank debit or by a nominative cheque.
- ***Spain***—Since November 2012, the limit is 2,500 Euro (for Spain residents) and 15,000 Euro (for non-residents). If the amount is higher than these (in each case), the payment should be done by transfer bank.
- ***Bulgaria***—Limit up to 10,000 Lev. If the transaction is over that limit then the consumer should pay through a bank.
- ***Greece***—Cash payments (including VAT) for the purchase of products and services are permissible up to 1500 Euros. Beyond that limit, payments should be done *via* bank accounts, cheques or credit/debit cards.

Use of single pre-paid cards have also been promoted in some countries so as to encourage card payments against cash as given in the box below:—

Box-4. Use of Single Pre-Paid Cards

- ***Hongkong's Octopus Card Payment System***—The Hong Kong Mass Transit Railway's Octopus card was launched in 1997 as an automatic fare collection scheme. Initially, it was used for only public transportation. In 1999, retail industry started using it as a payment means. Presently, Octopus card is one of the world's highest acceptance commercial smart card system covering 99% of the Hong Kong population.
- ***South Korea—T-Money*** was launched in 2004 in South Korea to improve public transportation ticketing services. It was introduced with the main purpose of facilitating fare transfers. Now, T-Money can be used for commercial transactions in convenience and fast food stores, theme parks, museums, bookstores, universities, theatres and at public facilities. Citizens can even use T-Money to pay taxes and fines or to pay for other civic services.

Use of Unique Identification Number has been popular in the USA which has been used for providing social benefits to their citizens. The details are given in the box below:—

Box-5. Unique Identification Number

In the USA, the Social Security Number (SSN), a nine-digit number, was issued to the U.S. citizens as an identifier for individuals. This was first introduced as a device for keeping account of contribution to the Social Security System. Today, SSN is required to be furnished to obtain a driver's license, public assistance, donate blood, or take out a loan. Additionally, it is used for filing tax returns in place of Tax Identification Number (TIN).

CHALLENGES OF LESS-CASH ECONOMY AND EFFORTS BEING MADE TO ADDRESS THEM

Despite many benefits of moving from cash and paper-based payment instruments to digital payments, doing so has many challenges, particularly in India. These are as follows:—

Poverty: Today, a large section of India's population still lives below the poverty line. Given that they lack regular income and marred by low standard of living, poverty remains a deterrent in the way of promoting digital payments. However, efforts are being made by the Government to address the problem of poor masses to enable them to benefit from the digital payments system. Through Direct Benefit Transfers (DBT), the beneficiaries are now receiving their wages, benefits and other subsidies directly into their accounts, without delay, hassles or leakages. Migrant labourers are able to remit money home easily and instantaneously. By undertaking digital transactions, account-holders save on the costs involved in accessing cash or travelling to the point of payment, in terms of not only travel cost but loss of wages and income opportunity. Thus, digital payments are useful, relevant and beneficial for the poor.

Lack of Financial Literacy: Financial literacy means ability to understand financial choices, make informed judgments, future plans and spend wisely. But, in India where illiteracy is high so also the financial illiteracy, lack of basic financial literacy and awareness remains one of the main obstacles in the way of promoting digital payments. However, the *Pradhan Mantri Jan Dhan Yojana* has enabled crores of Indian citizens to open accounts and have access to banking services, thereby increasing awareness and financial literacy in the country. Further, to improve financial literacy, banks are also imparting financial literacy training through Financial Literacy Centres and special camps.

Inadequate Physical Infrastructure: Developed countries with advanced and broadly used payment and banking systems might already have a physical infrastructure in place to process digital payments. But in low-income developing economies, including India, where the banking systems (particularly physical infrastructure is concentrated in urban areas), developing an adequate physical network to deliver digital payments to all corners of society is a great challenge. For example, though the Internet penetration has increased over the years, given the geographical divide, rural India still lacks Internet connections. To address the problems in physical infrastructure to increase Internet connections, the Government is implementing BharatNets to provide high-speed broadband connectivity to nearly 2,50,000 *Gram Panchayats*. Further, in areas without Internet connectivity, the Unstructured Supplementary Service Data (USSD) platform has been introduced, where digital payments can be made using basic/feature mobile phones using the *99# service.

Small and Medium Enterprises/Small Retailers: Indian economy depends to a large extent on the informal sector and a major share of workforce is employed in the unorganised sector that is highly dependent on cash for payments to local labour, products and also for raw-material. Further, small retailers dominate the Indian market place, who do not have enough resources to invest in electronic payment infrastructure. Keeping this in mind, the Government has introduced various digital payments solutions such as USSD, Unified Payment Interface (UPI), BHIM app, BHIM-Aadhaar Pay and Bharat QR (Quick Recognition) code, so as to offer low cost electronic payment infrastructure at the point of sale.

Transaction Charges: Transaction charges, annual fees or convenience fees are to be paid for carrying cards, which inhibits greater adoption and usage of card payments. However, given that digital transactions offer making payment anytime and anywhere, the transacting parties choose the digital transactions for the advantages they provide.

Privacy: Cashless transactions would always include some intermediary or third-party, thereby posing a threat to privacy, access to personal transactions and records. However, taking cognizance of the threat perception involved in the digital transactions, the Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules, 2011 have been framed (under the Information Technology Act, 2000) to protect the privacy of sensitive personal data or information, which includes financial information such as bank account or credit card or debit card or other payment instrument details.

Cyber Security: While cash holding poses physical security threat to life and criminal activities, cyber-security poses greater threat to digital payments system given the increasing sophistication of cyber crimes which can steal all wealth stored digitally just with a click of mouse. Recognising that a reliable payment system and safeguards are required to protect against fraud and cyber-attacks, the RBI has issued Cyber Security Framework to banks and Cyber Security Instructions to pre-payment instrument ("wallet") issuers. CERT-In issues alerts and advisories to financial institutions regarding latest cyber threats/vulnerabilities and countermeasures. Further, a committee has been set up regarding the establishment of a Computer Emergency Response Team for the Financial Sector (CERT-Fin), to work in close coordination with all financial sector regulators and other stakeholders.

Perception of Consumers: In India, it is believed that having cash helps you negotiate better. Cash is perceived to be the fastest way of transacting than the cards. Most card and cash users fear that they will be charged more if they use cards. However, electronic payment systems data show that the volume of digital transactions has increased substantially in the last few years.

SUMMING UP

Given India's socio-economic peculiarities, the promotion of an eco-system of digital payments is challenging and necessitates a roadmap for e-Payments, robust online banking systems, incentivising cashless transactions and, successfully implementing country-wide digital transaction mechanisms. The surge in digital payments post-demonetisation needs the complete support of all stakeholders to meet the challenges of the present and the expectations of the future. While the opportunities abound, so do the challenges. There are real and complex barriers to address so as to achieve and transform India into a cashless society. While the regulatory frameworks are being amended and updated so as to adapt the technology by the new players in the payments landscape, Government may collaborate with the private sector to develop digital infrastructure that can reach rural areas, and ensure inter-operability and competition among the providers and also financial capability among the citizens. Though it will take time to move towards a complete cashless economy, incremental steps can win confidence of the people and can convert India into a less cash society in the medium term.

REFERENCES

Government of India, Ministry of Finance, Department of Economic Affairs: *Union Budget, 2017-18.*

Government of India, Ministry of Finance, Department of Economic Affairs, Currency and Coinage Division; *Office Memorandum* on "Promotion of Payments through Cards and Digital Means" dated 29 February 2016.

Government of India, Ministry of Finance, Committee on Digital Payments (2016): *Medium Term Recommendations to Strengthen Digital Payments Eco-system.*

Reserve Bank of India (RBI), Department of Payment and Settlement Systems; *Payment and Settlement Systems in India: Vision-2018.*

Reserve Bank of India (RBI); *Certificates of Authorisation issued by the RBI under the Payment and Settlement Systems Act, 2007 for Setting up and Operating Payment System in India,* 04 May 2017.

The World Bank (2014); *The Opportunities of Digitising Payments — A Report by the World Bank Development Research Group, the Better than Cash Alliance, and the Bill & Melinda Gates Foundation.*

International Monetary Fund (March 2017); IMF Working Paper (WP/17/71) on *The Macro-economics of De-cashing* by Alexei Kireyev.

Sharma, Manoranjan; "India must Move towards a Less-cash Future: here's Why an e-Payments Roadmap is Critical", *Financial Express,* 3 April 2017.

Desjardins, Jeff; "The Global War on Cash", 27 January 2017, http://www.visualcapitalist.com/global-war-cash/

Singh, Ajeya; "Towards a Less Cash Economy: From a Discretionary Administration to a Policy-based One", *Business Opinion,* 13 February 2017.

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